

D-BOX HEMC

Home Entertainment Motion Controller



INSTALLATION GUIDE

D-BOX
// Move the World®

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IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this device near water.
6. Only clean the device with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves or any other appliances (including amplifiers) that produce heat.
9. Protect the USB cord from being walked on or pinched, particularly at the ends.
10. Use only attachments/accessories specified by the manufacturer.
11. Unplug this device during electrical storms or when unused for long periods of time.
12. Refer all servicing to qualified personnel. Servicing is required when the device has been damaged in any way. For example: If liquid has been spilled or objects have fallen onto it, if it has been exposed to rain or moisture, if it does not operate normally or, it has been dropped.

PRODUCT WARNINGS



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.



This symbol indicates that you must communicate with the manufacturer for disposal of the equipment.

WARNING: To reduce the risk of fire or electric shock, do not expose this device to rain or moisture.

1. D-BOX HEMC TECHNICAL SPECIFICATIONS

The D-BOX Home Entertainment Motion Controller (HEMC) enables home theatre owners to enjoy immersive cinematic motion in their theatre chairs. The HEMC brings D-BOX motion to any video platform (providing D-BOX encoding is available for the viewed content) – from streaming sites such as Hulu and Netflix, to TV channels, Blu-ray, DVD, and Apple TV.

Technical Specifications:

- Dimensions: 213.2 mm [8.39 in] x 196 mm [7.72 in] x 40.45 mm [1.59 in]
- Weight: 3.5 lbs, [1.59 kg]
- Color: Black
- Network connection: Wi-Fi 802.11 b/g/n or Ethernet 10/100/1000 Base-T LAN with dual antenna
- Power: 120-240V (20W)
- Motion output: USB, 4 ports on the rear panel
- Update port: USB, 1 port on the front panel
- Input connection*: 3.5 mm [1/8 in] audio jack
- Input format*: Analog stereo downmix (coming from source material encoded in 5.1, 6.1, 7.1, etc.)
- Connectivity to motion chairs: KAI-1P or KCU via USB

*The device can also be connected via an external converter that accepts Coaxial Audio, Toslink or HDMI connections. Please contact your D-BOX sales representative for this item or you may purchase it by a third party.



Figure 1. HEMC Rear Panel

2. WHAT'S IN THE BOX?

- D-BOX HEMC Controller
- Wi-Fi antennas (2x)
- Power supply 100-240V 3A
- Interchangeable power plugs for most countries (4)
- QUICK START GUIDE (Not shown)
- 2 Years Warranty (Not shown)



3. HEMC INTERNAL FUNCTIONALITIES

3.1 What to expect

- Supports audio streaming from any source (providing D-BOX encoding is available for the viewed content), including: DVD/Blu-ray players, Netflix, ChromeCast, YouTube, Apple TV, etc.
- Supports connection to multiple D-BOX enabled motion chairs.
- Automatically updates firmware and its motion codes via internet.
- For audio synchronization and motion playback, the HEMC software will:
 - Identify a movie for the first time within 25 to 29 seconds
 - Identify the last 10 movies played within 5 seconds
 - Resynchronize after a trick play operation (forward, rewind, play/pause) within 5 seconds

3.2 English D-BOX Motion Codes and Other Languages

The HEMC stores English Motion Codes only. However, it includes a parameter called “Recognition Tolerance” that allows the unit to keep its synchronization with foreign language movies. Increasing this value will allow the HEMC to have a better audio recognition for foreign languages. The HEMC will sync accordingly based on the language detected.

3.3 Audio Signal Requirement

You need an analog stereo downmix that carries all channels of the playing soundtracks. The HEMC is very efficient even if the audio stream isn’t optimal; it will still work, but its performance will be affected. To test if your audio feed going into the HEMC is good, simply replace the HEMC with a headphone/headset, using a female-to-female audio jack 3.5mm coupler (1/8 inch) audio jack. If you don’t hear a good clear sound or channels are missing (eg: no voice), you’ll know that the audio stream is not converted properly. If this is the case, please contact info@d-box.com.

3.4 When Installing in a Rack

- The HEMC is not rackmountable, therefore it sits on a shelf.
- Allow at least 1U for the HEMC when using the antennas (Wi-Fi connection).

4. HEMC SETUP

4.1 Hardware

We recommend carrying out the following steps in the order specified.

1. Carefully unbox your HEMC and remove it from the plastic bag.
2. Please read the online Terms and Conditions before breaking the seal on the box containing your cables. Read and keep all documents contained in the cable box.
3. Attach both antennas to the appropriate connectors on the HEMC unit. You don't need antennas if you plan to use only the wired connection, but you must use an RJ45 Ethernet cable to connect your HEMC to your router.
4. Plug the USB cable from the KAI-1P or KCU into the port at the back of the HEMC (KAI-1P or KCU is sold separately).
5. Connect your motion platform to your KAI-1P or your KCU (Please see details on page 9 to 11).
6. Connect an analog stereo downmix audio source from your home theatre A/V source (output) to the HEMC 3.5 mm (1/8 inch) audio-in port. It can also be connected via an external converter that accepts Coaxial Audio, Toslink or HDMI connections.
(Please see suggested converters on page 8.)
7. Connect the power cord and AC adaptor. Plug the power cord into an electrical outlet.
8. Power up your new HEMC unit.

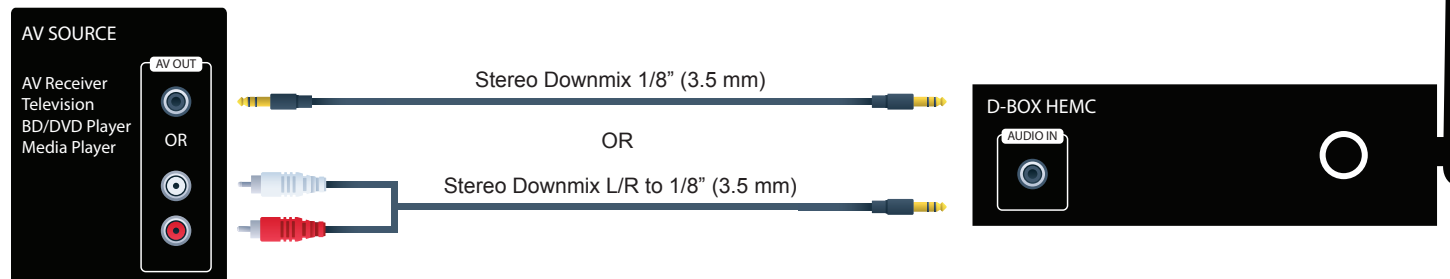
4.2 The HEMC is fanless

It is normal for the unit to heat up. Allow some space above the unit so the heat may dissipate properly.

5. D-BOX HEMC AUDIO WIRING DIAGRAM

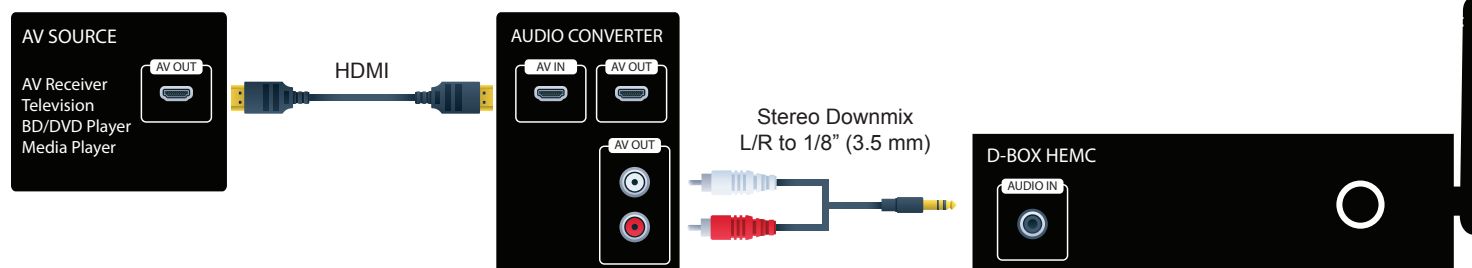
5.1 Recommended Connection Setup

Connect the analog Stereo Downmix output from any AV source to the HEMC's stereo 1/8" audio IN.



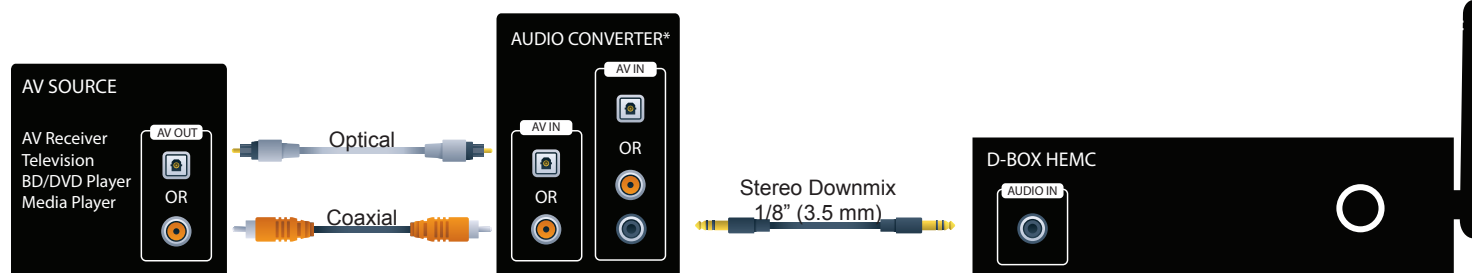
5.2 Alternate HDMI Connection Setup

Connect the HDMI OUT from your AV source to the *Atlona HDMI Multichannel to 2CH converter** and output a Left/Right downmix to the HEMC. Note that with this converter, you can use the HDMI pass through to connect to your TV.



5.3 Alternate Optical or Coaxial Connection Setup

Connect the Optical or Coaxial OUT from your AV source to the *Cypress Universal Digital/Analog Audio Converter**. Note that with this converter, you can use the Optical or Coaxial pass through to connect to your TV.

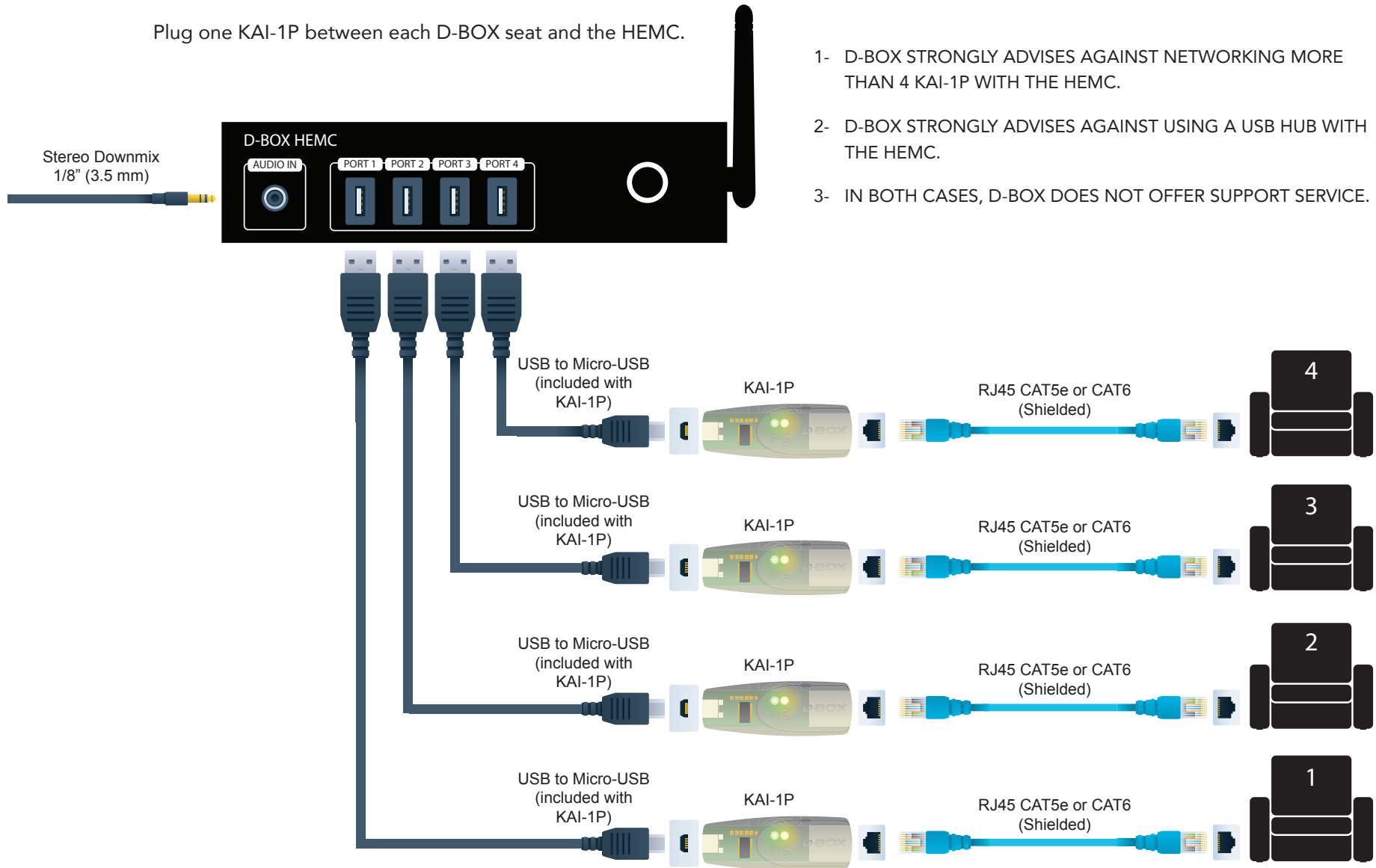


*Tested and suggested converter

6. D-BOX HEMC SEATS WIRING DIAGRAM

6.1 1 to 4 Seats Setup

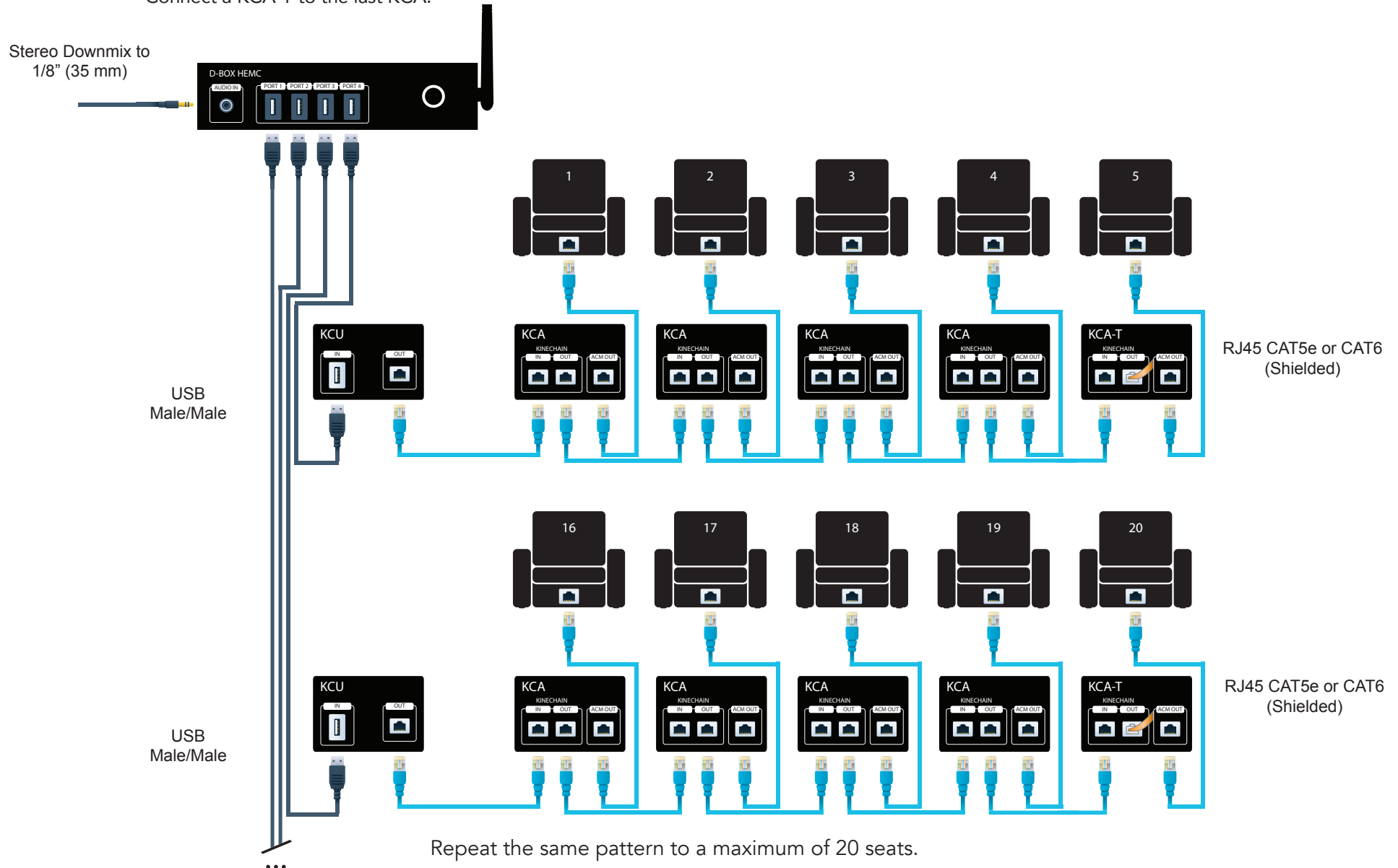
Plug one KAI-1P between each D-BOX seat and the HEMC.



6. D-BOX HEMC AUDIO WIRING DIAGRAM (Continued)

6.2 Setup for 5 - 20 seats

You can plug up to four D-BOX KCU to the HEMC. Connect the first KCA into the KCU, then daisy chain the remaining KCA units. Connect a KCA-T to the last KCA.



7. D-BOX HEMC APP



Your D-BOX HEMC unit is designed to be used with the D-BOX HEMC app. Use your tablet to quickly and easily adjust your D-BOX motion enabled chairs by configuring your D-BOX HEMC. Browse through the Motion Code Library to get a quick view of all your D-BOX motion encoded movies stored in the HEMC. Create your own private hotspot using your HEMC or simply add it to your current Wi-Fi network.

With your tablet and the D-BOX HEMC app you can:

- Set your D-BOX HEMC's connectivity.
- Manage your D-BOX enabled seat settings.
- View a list of your D-BOX motion encoded movies.

Download the app's latest version for your operating system here:

- Android: Google Play (https://play.google.com/store/apps/details?id=com.dbox.hemc_control_app).
- iPad: Apple's app Store (<https://itunes.apple.com/ca/app/d-box-hemc/id931473554>).
- Windows: The D-BOX HEMC website (<http://hemc.d-box.com/>).

8. START-UP AND SPLASH SCREEN

Once the D-BOX HEMC app has been installed, launch it. While it is starting up, you will see the splash screen as shown in Figure 2.

There are two ways to create the "link" between your HEMC, your router and the HEMC app:

8.1 Wired Network Configuration

1. Connect your tablet to the same router your HEMC is connected to.
2. The HEMC app will detect your HEMC automatically.
3. Skip to section 10.

8.2 Wi-Fi Network Configuration

1. Make sure your Wi-Fi connection is active on your tablet or PC.
2. Select the HEMC network in your available network list.



Figure 2. HEMC Control Application Splash Screen

9. WI-FI CONFIGURATION WIZARD

The Wi-Fi Configuration Wizard allows you to configure a Wi-Fi connection for your HEMC. The steps differ slightly, depending on whether your app is running on Windows or tablet.

9.1 Configuring a Wi-Fi Connection on tablet

If there is no communication with the HEMC upon starting-up the app, the Wizard screen will appear immediately after the splash screen. You can then perform the following steps:

1. The first panel displays a message telling you to connect your tablet to your HEMC hotspot, as shown in [Figure 3](#). Then, go to your tablet's Wi-Fi settings and connect to that same hotspot. If there is no hotspot detected, the panel will display a message similar to the one shown in [Figure 6](#).
2. The second panel displays the list of Wi-Fi networks detected by your HEMC and a message telling you to select a Wi-Fi network. Click "Next" and then connect your HEMC to the selected Wi-Fi, as shown in [Figure 4](#). Select the desired Wi-Fi network, type the security key and click the "Next" button. Then, go to your tablet's Wi-Fi settings and connect to that same network.

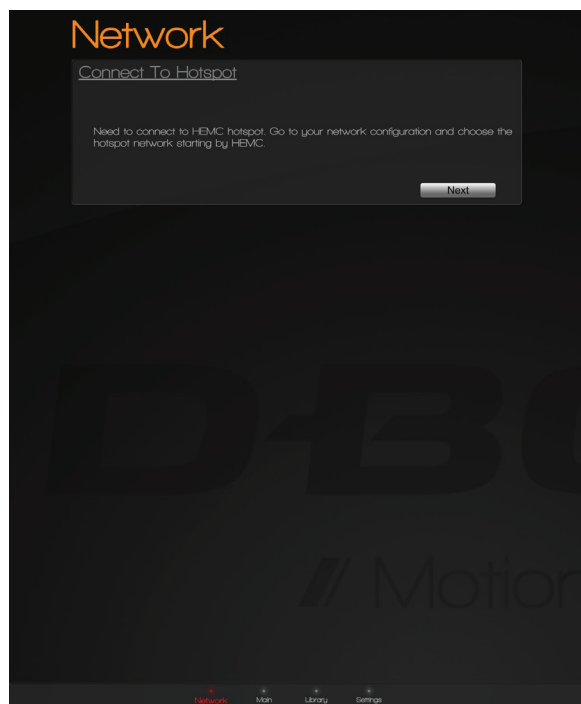


Figure 3. Connection Wizard (iPad) – Connect to Hotspot

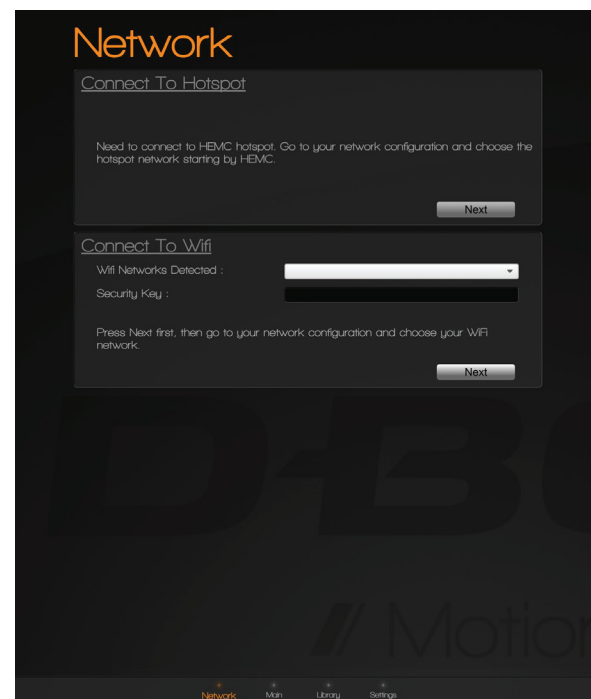


Figure 4. Connection Wizard (iPad) – Connect to Wi-Fi

3. If the connection to the Wi-Fi network failed in step 2, the third panel will display an error message similar to the one shown in [Figure 8](#). You can click the “Retry” button to retry connecting to the Wi-Fi network, or click the “Reset” button to return to the first panel and connect to the hotspot again.
4. If the connection to the Wi-Fi network was successful in step 2, a third panel will display a success message similar to the one shown in [Figure 9](#). Click on the “OK” button to return to the Main screen.

9.2 Configuring a Wi-Fi Connection on Windows

To access the Wizard screen, use the screen selector located at the bottom of any screen. If there is no communication with the HEMC at the start-up of the D-BOX HEMC app, the Wizard screen will appear immediately after the splash screen.

You can then perform the following steps:

1. The first panel displays the list of hotspots detected, as shown in [Figure 5](#). Select the hotspot corresponding to your HEMC, enter the hotspot’s password (if necessary) and click the “Connect” button. If there is no hotspot detected, the panel will display the message shown in [Figure 6](#).

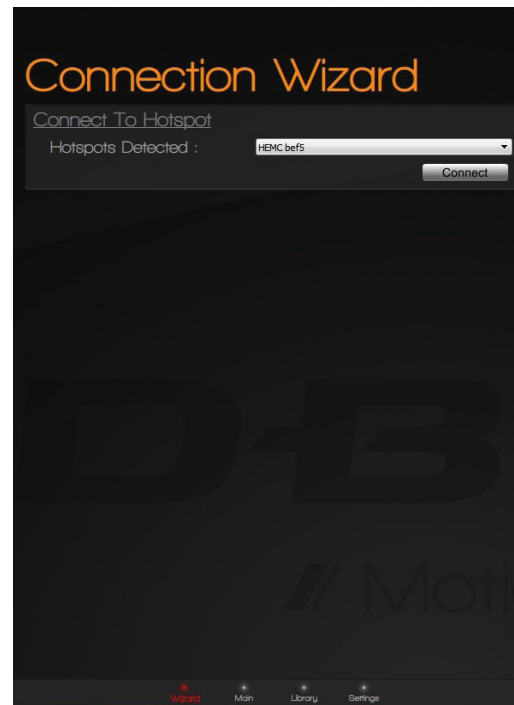


Figure 5. Connection Wizard (Windows) – Connect to Hotspot

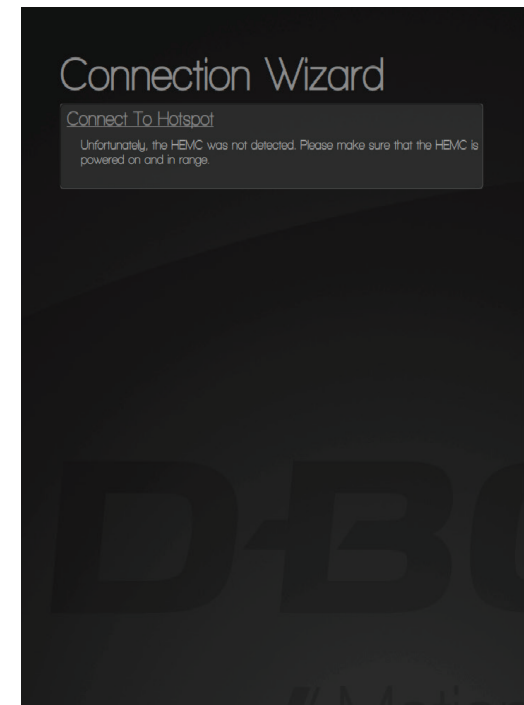


Figure 6. Connection Wizard (Windows) – No Hotspot Detected

2. The second panel displays the list of Wi-Fi networks detected by your HEMC, as shown in [Figure 7](#). Select the desired Wi-Fi network, type the security key and click the “Connect” button.



Figure 7. Connection Wizard (Windows) – Connect to Wi-Fi

3. If a connection to the Wi-Fi network failed in step 2, a third panel will display an error message, as shown in [Figure 8](#). You can click the “Retry” button to retry connecting to the Wi-Fi network, or click the “Reset” button to go back to the first panel to connect to the hotspot again.

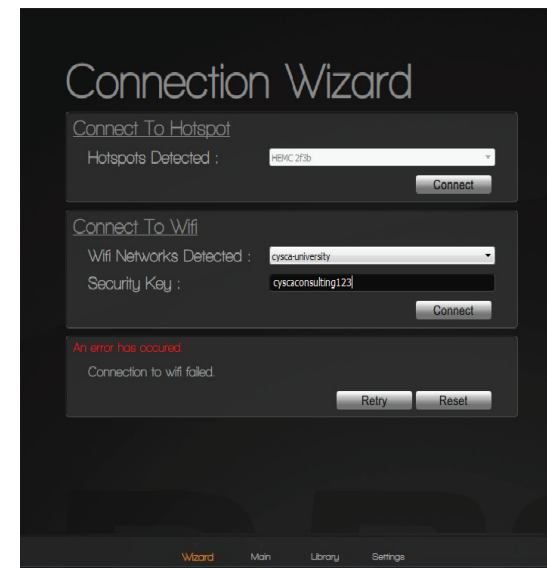


Figure 8. Connection Wizard (Windows) – Wi-Fi Connection Failed

4. If the connection to the Wi-Fi network was successful in step 2, a third panel will display a success message, as shown in [Figure 9](#). You can click the “OK” button to go to the main screen, or click the “Reset” button to go back to the first panel to connect to the hotspot again.

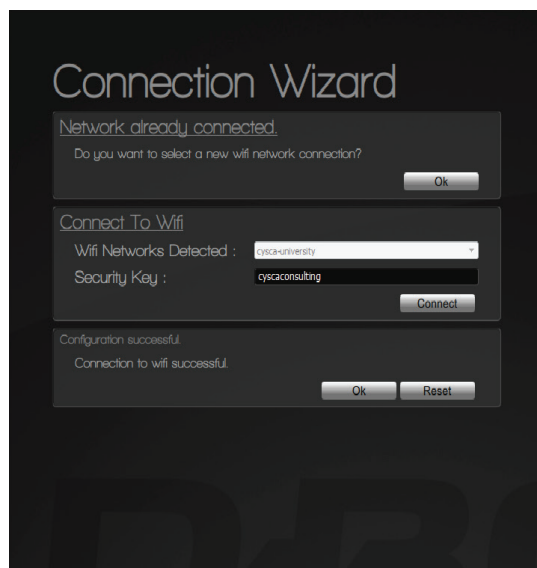


Figure 9. Connection Wizard (Windows) - Wi-Fi Connection Successful

5. You can go back to the Wizard screen at any time to modify your HEMC’s Wi-Fi connection. Simply click on the Wizard icon in the screen selector at the bottom of the screen. The panel will display a message, as shown in [Figure 10](#).

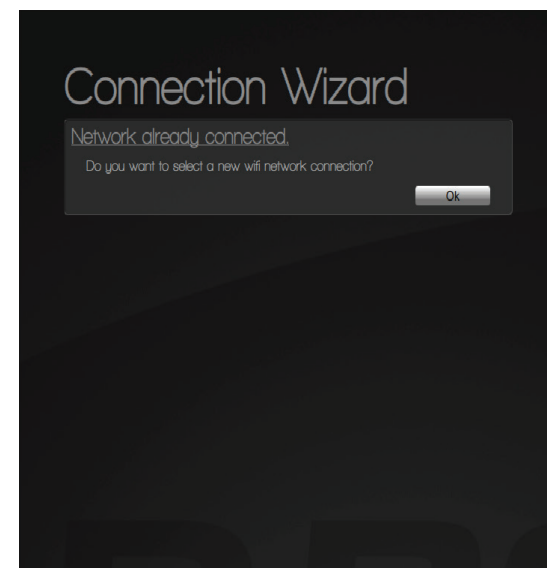


Figure 10. Connection Wizard (Windows) - HEMC Already Connected

10. THE D-BOX HEMC APP MAIN SCREEN

10.1 The Screens

The main screen is divided into four sections, from top to bottom:





- Status Panel
- Media Info
- Seat Manager
- Screen Selector

10.2 Status Panel

The Status Panel displays the following statuses and icons:



Figure 11. HEMC Control Application Main Screen

Status Categories				
HEMC status:	The HEMC has been located	Not Available	The HEMC cannot be located	Offline
Source status:	The HEMC has detected an audio source	The detection process is in a transitory state	The audio source is lost or there's an audio source error	Offline
Motion code status:	The HEMC has identified a movie and there is a motion code available	The HEMC has identified a movie, but there is no motion code available	Not Available	Offline
Seat readiness:	The HEMC is connected to at least one D-BOX motion enabled chair	Not Available	All D-BOX motion chairs are disconnected	Offline

10. THE D-BOX HEMC APP MAIN SCREEN (Continued)

10.3 Media Info

The Media Info section displays the name of the identified movie, its poster image and the time offset within the movie.

10.4 Seat Manager

The Seat Manager section displays, for each connected D-BOX motion enabled chair, the current motion and vibration levels (-20 dB to 0 dB) and indicates whether the chair's motion is enabled or disabled. By default, the motion value is set to 100% or 0 dB and the vibration value is set to 75% or -5 dB.

Enable or disable your chair by clicking on the chair button. The motion and vibration you feel should stop or restart instantly.

Change the motion or vibration levels by using the sliders. Modify the motion and vibration at the same time by activating the chain icon and using the large slider handle.

If the chair button on top of the motion & vibration sliders is grey = Chair is disabled

If the chair button on top of the motion & vibration sliders is orange = Chair is enabled

10.5 Screen Selector

The Screen Selector, which is displayed at the bottom of each screen, allows you to switch between various screens (the Main screen, the Settings screen, the Motion Code Library screen, and the Configuration Wizard screen) by clicking the desired name on the selector.

10.6 Loss of Communication

Loss of communication between the HEMC and the app will be displayed as followed on your status panel:

- HEMC unavailable = red LED
- No source = grey LED
- No motion = grey LED
- No seat = red LED

After a few seconds, all items on the status panel will turn to grey. You will need to go back to your screen selector and return to the Network page to try to re-establish communication.

11. THE D-BOX HEMC APP SETTINGS SCREEN

The Settings screen allows you to view and set different preferences:

As shown in Figure 12, you can do the following:

- Change the name of your HEMC. The default value is set to the serial number of the HEMC.
- Set a motion delay, between -200 to 200 milliseconds, which will be applied to all connected D-BOX motion enabled chairs.
- Set an audio recognition tolerance between 0 and 100 seconds. If a recognition failure occurs during the specified delay, the synchronization will be maintained with the proper visuals on the Main screen and the motion will still be felt on your chair(s).

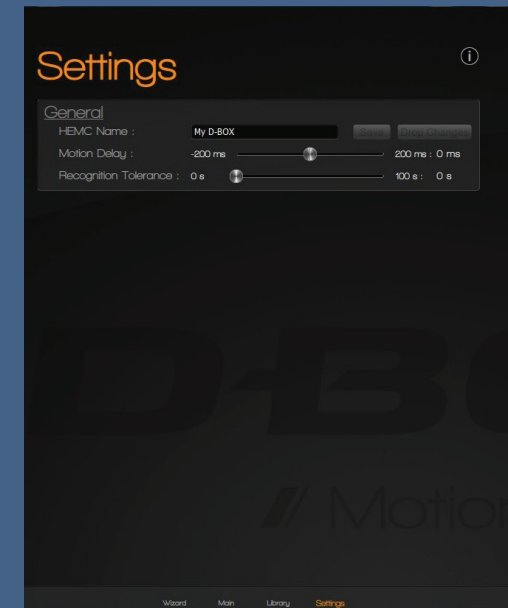


Figure 12. HEMC Control Application Settings Screen

12. THE D-BOX HEMC APP MOTION CODE LIBRARY SCREEN

The Motion Code Library screen displays in a table view, a list of all movies for which there is currently a D-BOX motion code available on your HEMC unit.

For each movie, the table displays the title, the duration of the movie and its release date. The table allows you to scroll horizontally and vertically.

- Sort movies by title, duration or release date by clicking on the column header.
- Perform a dynamic search of the library by clicking on the search text field and typing the desired keyword.



Figure 13. HEMC Control Application Library Screen

13. UPDATING YOUR D-BOX HEMC SOFTWARE

13.1 Update the HEMC's Internal Software and Motion Codes

The internal software and the Motion Codes Library are updated automatically from a remote server. Be sure to always have your HEMC connected to your internet network. The update will not disturb your current movie viewing and will be uploaded while you are watching a movie. However, the installation will be performed only if your HEMC is idle for one hour or the next time you turn it ON.

13.2 Update the D-BOX HEMC App

When a new version of the D-BOX HEMC app is released, download the appropriate app for your operating system.

- Android: Google Play (https://play.google.com/store/apps/details?id=com.dbox.hemc_control_app).
- iPad: Apple's App Store (<https://itunes.apple.com/ca/app/d-box-hemc/id931473554>).
- Windows: The D-BOX HEMC website (<http://hemc.d-box.com/>).

13.3 Manual Motion Codes Updates

You need to download the package from the D-BOX HEMC Website (<http://hemc.d-box.com/>) and install it on a USB key. Then plug the USB key in your HEMC, and you should observe the following:

1. On the app, an update status message appears at the top right of the main screen.
2. Once the update is done (time will depend on the number of files included in the package), your chair will reinitialize by moving down and then up.
3. The status message should be updated to indicate that the update is complete.
4. The new motion codes are now installed on your HEMC unit.
5. In the HEMC Control app library screen, sort by release date.
6. You should see new movies.

13.4 Manual Internal Software Upgrades

Upon the release of a new firmware version of the HEMC, you need to download the installation package from the D-BOX HEMC Website (<http://hemc.d-box.com/>) server and install it on a USB key. Then plug the USB key in, you should observe the following:

1. On the app, an upgrade status message appears at the top right of the main screen.
2. Once the upgrade is complete (after about 30 seconds), your chair will reinitialize by moving down and then up.
3. The status message should be updated to indicate that the upgrade is over.
4. The new upgrade is now installed in your HEMC unit.

Business hours: Monday to Friday 9:00
a.m. to 5:00 p.m., EST

Customer Support: 1-844-877-3269
info@d-box.com